

# MUNICIPAL JOURNAL

## INDEX

VOLUME XXXIII.

JULY—DECEMBER

1912

### General Index

- Abilene, Good Time in..... 496  
Accidents in London, Street..... 367  
Akron, O., Water Works of..... 764  
Albany Sewerage, Report on..... 218  
Algae and Water Supplies..... 368  
Animals, Disposal of Superfluous... 796  
Arbitration, Electrolysis Damages Settled by..... 401  
Arcades for Widening Streets..... 290  
Ash Hauling in St. Louis, Municipal. 767  
Asphalt Material, Using Old..... 936  
Paving on Brick..... 78  
Plan, St. Louis Municipal..... 759  
Repair Plant, Niagara Falls..... 904  
Truck, St. Louis..... 529  
Assessing Cost of Improvements... 151  
Paving Costs..... 149  
Assessment System, Houston..... 568  
Assessments at Beaumont, Texas... 803  
Excess Condemnation and..... 221  
Automobile, Baltimore Fire Department..... 902  
Cost of Horse vs..... 766  
Police Patrol, New York..... 728  
Automobiles, Cost of, San Francisco. 897  
Autos, Cost of Operating Municipal. 866  
  
Baltimore Fire Department Autos... 902  
High Pressure Fire Service..... 107  
Municipal Markets in..... 825  
Baltimore's Great White Way..... 184  
Beaumont, Texas, Assessments at... 803  
Benches of Concrete and Wood, Park Benze Act, Supreme Court Decision on..... 148  
Binghamton, Boulevard Lighting in. 283  
Birmingham, Municipal Ownership in 17  
Bituminous Road Construction..... 440  
Road Surfaces..... 898  
Boise City, Concrete Paving in..... 150  
Bonfires, Danger of..... 496  
Bond Issue Carried, New York's \$50,-000,000..... 767  
Bookkeeping, Model Municipal..... 566  
Brick Pavements, Experience Tests of..... 253  
Pavements, Thermal Effects on Cement-Filled..... 861  
Paving Tests..... 567  
Uniformity of Paving..... 937  
Bridge, Concrete Arch..... 934  
Lift Span Highway..... 938  
Budget Exhibit, Cincinnati..... 253  
Budgets and Physical Statistics..... 762  
on Physical Statistics, Basing... 723  
Building Blocks, City Regulation of. 113  
  
Chart of a Municipal Government... 43  
Chicago, A Traffic Census in..... 683  
Chicago's Mounted Police..... 636  
Cincinnati Budget Exhibit..... 253  
Water Mains, Cleaning..... 793  
Civics Room in a Public Library..... 256  
Cleaning a Great City..... 868  
Cleanliness or Extermination..... 867  
Cleveland, Sewage Treatment Plans for..... 112  
Cobble Stones as Building Material. 727  
Colorado Springs Commission..... 598  
Columbus, Refuse Collection in..... 1  
Commission, Colorado Springs..... 598  
Concrete, Gravity Conveying of..... 150  
Roads in Michigan..... 144  
Surfaces, Painting..... 82  
Work in Pittsburgh..... 6  
Contractors, Engineers and Officials. 567  
and Public Officials..... 561  
Contracts, Bunching Sewer..... 286  
For Fair and Sensible..... 113  
Municipal..... 216  
Controller's Report, Philadelphia City..... 17  
Convenience Station, Ventilating a. 530  
Convention, American Society of Municipal Improvements..... 637  
Cost Data, Use of..... 903  
  
Death Rate in United States, Marked Decline in..... 253  
Rates in Large Cities..... 902  
Des Moines, Public Market for..... 182  
Detroit, Pavement Testing in..... 929  
  
Disposal of Superfluous Animals.... 796  
Dogs, Board of Health Destroys.... 152  
Drinking Fountains—City Necessities..... 867  
Duluth's Housing Ordinance..... 831  
Dusseldorf City Planning Congress. 249  
  
Easton, Pa., Refuse Disposal in.... 604  
Electric Plants, Municipal..... 684  
Works, South Norwalk..... 665  
Electrolysis Damages Settled by Arbitration..... 401  
from Stray Currents..... 79  
of Street Mains..... 45  
Electrolytic Corrosion, Losses by... 113  
Excess Condemnation..... 145  
Condemnation and Assessments. 221  
Exhibit, A Novel Municipal..... 329  
Expenditures, Unnecessary Paving. 799  
Expositions, Popularity of Municipal 149  
  
Fargo's Water Purification Plant... 559  
Financial Methods, Municipal..... 7  
Fire Alarm Stations Indicated on Lamp Posts..... 865  
Apparatus, Paris Motor..... 472  
Apparatus, Signal..... 218  
Apparatus, Ventnor's Automobile 564  
College New York..... 903  
Fire Department, The Pittsburgh... 465  
Department Autos, Baltimore..... 902  
Fire Departments in Two Small Cities..... 601  
Engine, An Old Hand..... 498  
Engines, Motor..... 836  
Engines, Motor Steam..... 220  
Engines, Railway Locomotives as..... 473  
Hazard from Oil Wells..... 563  
Hose, Labels on..... 563  
Hose in Service, Amount of..... 471  
Hydrants in Louisville..... 329  
Hydrants, Maintaining..... 249  
Hydrants, Spacing of..... 47, 82, 185  
Motor Apparatus at Ocean Park Pumps, Centrifugal..... 599  
Service, Baltimore High Pressure Stitties in this Number..... 497  
Fires in Two Cities, Causes of..... 498  
Flies, California Cities War on..... 366  
Flushing Patent Decision, Street... 363  
Fly Catcher, Municipal..... 834  
Fountain in a Horse Trough, Bubbling..... 933  
Fountains Are Unique, Street..... 931  
  
Garbage Disposal in Seattle..... 323  
Incinerator, Power from Milwaukee's..... 149  
in St. Louis, Collection of..... 402  
Gas Meters, Accuracy of..... 362  
Gongs at Street Crossings..... 434  
Government, Chart of a Municipal... 43  
for Pennsylvania Cities..... 727  
Grade Crossing Laws..... 397  
Grading the Hump at Pittsburgh... 139  
Granite Pavement, Grouted..... 932  
  
Halifax, Cleaning Mains in..... 363  
Harbor Waters, Pollution of..... 531  
Haverhill Police Signal System.... 728  
Health Act, Ontario's New..... 152  
Highway Work, Local Conditions and 439  
Highways in California, State..... 432  
Massachusetts State..... 254  
in South Dakota, Trunk..... 430  
Hose Couplings, Standard..... 5  
in Service, Amount of Fire..... 471  
Housing Ordinance, Duluth's..... 831  
Houston's Assessment System..... 568  
Hypochlorite Treatment of Water... 182  
  
Ice Plant, Power to Operate..... 761  
Plants, English Municipal..... 367  
Illumination—Private Plants, Data Concerning Street..... 685  
Imhoff Tank, An Unsatisfactory.... 329  
Incinerator, The Portsmouth..... 150  
Indebtedness in Wisconsin Cities... 904  
Indianapolis Ornamental Lighting... 676  
Intersection, Improvement of Street. 897  
  
Lamp Posts, Fire Alarm Stations Indicated on..... 865  
Lampposts, Venice Concrete..... 683  
  
Lamps for Display Lighting..... 694  
Liability for Negligence in Operating Waterworks, Municipality's. 634  
Libraries, Municipal Reference..... 729  
Library, Civic Room in a Public.... 256  
Riverside's Model..... 365  
A Traveling..... 601  
Light Plant, Liability of Municipalities for Negligence in Operation of Electric..... 865  
Plant, South Norwalk's Electric 568  
Lighting in Binghamton, Boulevard. 283  
Indianapolis Ornamental..... 676  
Mazda Lamp Street..... 678  
Ornamental Street..... 673  
Paving for Ornamental Street... 684  
in Pitcairn, Municipal..... 675  
Private Plants, Data Concerning "White Way"..... 695  
Standards, Spacing of Display... 694  
Syracuse Ornamental..... 672  
in Utica, N. Y., Improved Street. 682  
Los Angeles, Double Tunnel Street in..... 144  
Unique School Building in..... 866  
Lynn, Reconstructing a Sewer in... 289  
  
Macadam, Connecticut Special..... 427  
Mail Box Problem..... 603  
Main, Welding a Ruptured Steel.... 395  
Mains in Halifax, Cleaning..... 363  
Maintenance, Necessity for Skillful. 567  
of Roadways..... 835  
Manager for Sumter, City..... 600  
Manchester, N. H., Hauling Rubbish in..... 324  
Shade Trees in..... 530  
Street Watering in..... 365  
Manchester's Police Patrol..... 399  
Market for Des Moines, Public..... 182  
Tacoma's Municipal..... 328  
Toledo's Municipal..... 179  
Markets in Baltimore, The Municipal and High Food Prices..... 185  
Massachusetts State Highways..... 254  
Meters in Milwaukee..... 110  
Milwaukee, Meters in..... 110  
Water Works Reports..... 832  
Milwaukee's Concrete Viaduct..... 631  
Garbage Incinerator, Power from 149  
Mirrors at Street Corners..... 331  
Mismanagement, A Sample of..... 765  
Mosquitoes, Philadelphia Fights... 599  
Motor Apparatus, Advantages of... 497  
Apparatus at Ocean Park Fire... 636  
Cycles for Municipal Work..... 252  
Municipal Ownership in Birmingham 17  
  
Negligence in Operation of Electric Light Plant, Liability of Municipalities..... 865  
Newark, N. J., Large Sewers in.... 595  
Refuse Disposal..... 250  
New Bedford, School Board for... 798  
New Britain, Water Rates for..... 638  
New York Automobile Police Patrol 728  
New York's Experimental Pavements 364  
\$50,000,000 Bond Issue Carried... 767  
Fire College..... 903  
Special Granite Pavement..... 525  
Niagara Falls Asphalt Repair Plant. 904  
  
Oil Wells, Fire Hazard from..... 563  
Ozone Purification, Progress in.... 766  
Sterilization at Baltimore..... 603  
Water Purification..... 568  
  
Painting Concrete Surfaces..... 82  
Papers, Use of Technical..... 439  
Using Technical..... 291  
Paris Motor Fire Apparatus..... 472  
Park Benches of Concrete and Wood Force, Award of Excellence for. 834  
Roads..... 731  
Patent, Septic Tank..... 730  
Silt, Septic Tank..... 79  
Pavement, New York's Special Granite..... 525  
Testing in Detroit..... 929  
Pavements Grouted, Granite..... 932  
New York's Experimental..... 364  
Paving Brick, Uniformity of..... 937  
Thermal Effects on Brick..... 900  
Costs, Assessing..... 149  
Expenditures, Unnecessary..... 799

# MUNICIPAL JOURNAL

in Boise City, Concrete.....	150
in Holland, Municipal.....	868
on Brick, Asphalt.....	78
Tests, Brick.....	567
Payment for Improvements.....	332, 401
Penstock, An Unusual.....	366
Philadelphia City Controller's Report.....	17
Fights Mosquitoes.....	599
Police School.....	562
Street Cleaning in.....	901
Philadelphia's Water Exhibit.....	402
Pittsairn, Municipal Lighting in.....	675
Pittsburgh, Concrete Work in.....	6
Fire Department, The.....	465
Grading the Hump at.....	139
Hump, The.....	601
Planning, City.....	637
Commission, A City.....	143
Congress, Dusseldorf City.....	249
Contest, A City.....	603
in Public Schools, City.....	401
is, What City.....	16
Platforms, Continuous Moving.....	110
Playground Facilities, Seattle's.....	732
Plumbing Defects, Some Unusual.....	635
Police, Chicago's Mounted.....	636
Patrol, Manchester's.....	399
Patrol, New York Automobile.....	728
School, Philadelphia.....	562
Signal System, Haverhill.....	728
System, Three Platoon.....	830
Pollution of Harbor Waters.....	531
Population by Metropolitan Districts.....	46
Port Arthur, Street Cleaning in.....	530
Portsmouth Incinerator, The.....	150
Power, Municipal Hydro-Electric.....	252
Praise Where It Is Due, Give.....	221
Pump Economical, Electric.....	148
Pumps, Centrifugal Fire.....	599
Purification Methods, French Tests of Water.....	75
Tests, French Water.....	111, 146
Railways, Street Crossings of.....	18
Rates Increased, Trying to Have.....	835
Protests Against Low.....	834
Regulating Public Utility.....	367
Water.....	768
Reclamation of Lands, Municipal.....	895
Records of Underground Structures.....	78
Refuse Collection in Columbus.....	1
Collection and Disposal of City.....	361
Disposal in Easton, Pa.....	604
Disposal, Newark.....	250
Disposal Plants, American.....	319
Incineration, Light.....	527
Repairing City Property.....	602
Riverside's Model Library.....	365
Road Congress, American.....	47, 400
Congress in 1913, London.....	182
Construction, Bituminous.....	440
Metal, Testing.....	247, 287
Queens Borough Experimental.....	435
Surfaces, Bituminous.....	898
Work in Massachusetts.....	220
Roads in Michigan, Concrete.....	144
Oil Shale.....	331
Park.....	731
Sand-Clay.....	638
Roadways, Maintenance of.....	835
Rochester, Ind., Water Supply of.....	148
Rubbish in Manchester, N. H., Hauling.....	324
St. Louis' Asphalt Truck.....	529
St. Louis, Collection of Garbage in.....	402
Municipal Ash Hauling in.....	767
Municipal Asphalt Plant.....	759
Sand-Clay Roads.....	638
San Francisco Automobiles, Cost of.....	897
School Board for New Bedford.....	798
Building in Los Angeles, Unique is Unique, Venice High.....	866
Seattle, Garbage Disposal in.....	597
Seattle's Playground Facilities.....	323
Septic Tank Patent Suit.....	732
Tank Patent.....	79
Sewage Fall, Utilizing.....	730
Power from.....	83
Treatment Plans for Cleveland.....	142
Sewer Location, Difficult.....	112
in Lynn, Reconstructing a.....	114
Outlet, Large Submerged.....	289
Repairs in Hampstead.....	213
Sewerage, Report on Albany.....	368
Sewering Jamaica Bay Division.....	218
Sewers in Newark, N. J., Large.....	44
Poplar Roots Stop.....	585
Sidewalk Construction, Cost of.....	532
Obstructions.....	397
Street Names on.....	16
Smoke Problem, Lectures on the.....	903
Society of Municipal Improvements Convention, American.....	46
South Norwalk Electric Works.....	800
South Norwalk's Electric Light Plant.....	665
Sprinkler Connections, Automatic.....	568
Standpipes or Tanks, Value of.....	566
Statistics, Basing Budgets on Physical.....	868
Budgets and Physical.....	723
Value of Physical.....	762
of Water Works of the United States.....	729
Sterilizing Library Books.....	8
Methods, Tests of New.....	937
Water in the Home.....	83
Stones as Building Material, Cobble.....	365
Cobble.....	727

Street Cleaning in Port Arthur.....	530
Cleaning in Philadelphia.....	901
Crossings of Railways.....	18
Intersections, Improvement of.....	897
Lighting, Mazda Lamp.....	678
Lighting, Ornamental.....	673
Names on Sidewalks.....	903
Streets, Arcades for Widening.....	290
Safety in City.....	401
Sumter, City Manager for.....	600
Surface Waters in Cities.....	330
Swimming Pool, Public Out Door.....	328
Pools, Pollution of.....	363
Syracuse Ornamental Lighting.....	672
Tacoma's Municipal Market.....	328
Taxes, Collecting.....	765
Tax Law and Its Enforcement.....	325
Testing Road Metal.....	247, 287
Thermal Effects on Cement-Filled Brick Pavements.....	861, 900
Toledo's Municipal Market.....	179
Traffic Census in Chicago, A.....	683
Trees Along Roadways.....	438
in Manchester, Shade.....	530
Tunnel Street in Los Angeles, Double.....	144
Typhoid Cases, Reporting.....	185
in Lettuce.....	636
from Oysters.....	396
Underground Structures, Records of.....	78
Utica, N. Y., Improved Street Lighting in.....	682
Venice Concrete Lampposts.....	683
High School is Unique.....	597
Ventnor's Automobile Fire Apparatus.....	564
Viaduct, Milwaukee's Concrete.....	631
Water Exhibit, Philadelphia's.....	402
Hygienic Purification of.....	528
Hypochlorite Treatment of.....	182
Mains, Cleaning Cincinnati.....	793
Mains, Stones in.....	184
Mains Under Streams, Laying.....	41
Purification of.....	564
Purification Methods, French Tests of.....	75
Purification, Ozone.....	568
Purification Plant, Fargo's.....	559
Purification, Progress in.....	531
Purification Tests, French.....	111, 146
Rates.....	768
Rates for New Britain.....	638
Supplies, Algae and.....	368
Supply, Hetch Hetchy.....	183
Supply of Rochester, Ind.....	148
Tanks, Round Hoops for.....	252
Waste in England.....	83
Works of Akron, O.....	764
Works, Municipality's Liability for Negligence in Operating.....	634
Works Reports, Milwaukee.....	832
Works Statistics.....	17, 364
Works of the United States, Statistics of.....	8
Watering in Manchester, Street.....	365
Waters in Cities, Surface.....	330
Welding a Ruptured Steel Main.....	395
"White Way" for a Small City.....	677
Wisconsin Cities, Indebtedness in.....	904

## News of Municipalities

### ROADS AND PAVEMENTS

Ada, Okla.....	697
Albany, Ga.....	153
Albany, N. Y.....	837
Allegan, Mich.....	48, 734
Alton, Ill.....	115
Amherst, Va.....	905
Altoona, Pa.....	906
Appleton, Wis.....	804
Arma, Kan.....	223
Asbury Park, N. J.....	605
Ashland, Wis.....	292
Athens, Tenn.....	500
Atlanta, Ga.....	257, 293, 444
Augusta, Ga.....	19
Bakersfield, Cal.....	570
Baltimore, Md.....	605, 805
Bay City, Mich.....	533, 769
Bellingham, Wash.....	84
Birmingham, Ala.....	371
Bloomfield, N. J.....	293
Boonsboro, Va.....	640
Boston, Mass.....	871, 906, 939
Boulder, Colo.....	640
Bozeman, Mont.....	770
Bridgeport, Conn.....	804
Bristol, Tenn.....	293
Brooklyn, N. Y.....	871
Brunswick, Ga.....	292
Butte, Mont.....	115
Caldwell, N. J.....	403
Canajoharie, N. Y.....	906
Carlisle, Ky.....	85
Carthage, Mo.....	499
Carthage, Tex.....	770
Charlotte, N. C.....	154
Chattanooga, Tenn.....	640, 804, 837
Chester, Pa.....	838
Chicago, Ill.....	443
Chisholm, Minn.....	606
Cincinnati, O.....	500
Coleman, Tex.....	404

Columbus, Kan.....	605
Columbus, O.....	697
Coquille, Ore.....	444
Cornelia, Ga.....	905
Corpus Christi, Tex.....	698
Couderport, Pa.....	85
Dallas, Tex.....	292, 445, 870
Dayton, O.....	84, 186, 534
Dayton, Wash.....	870
Denison, Tex.....	223, 371
Denton, Tex.....	534
Denver, Colo.....	293
Des Moines, Iowa.....	20, 535
Dover, Del.....	153
Duluth, Minn.....	84, 443, 607
East Orange, N. J.....	837
Elizabeth, N. J.....	606
El Paso, Tex.....	186
Ellensburg, Wash.....	940
Englewood, N. J.....	49
Erie, Pa.....	334
Eugene, Ore.....	871
Florence, Ala.....	443
Fond du Lac, Wis.....	153
Fort Wayne, Ind.....	20, 533, 569, 870
Fort Worth, Tex.....	85, 698
Fulton, N. Y.....	837, 871
Gainesville, Tex.....	697
Geneva, N. Y.....	906
Georgetown, Del.....	223
Grantville, Pa.....	187
Haddonfield, N. J.....	870, 905
Hammond, Ind.....	371
Hannibal, Mo.....	535
Hankow, China.....	444
Harriman, Tenn.....	639
Harrisburg, Pa.....	116, 154, 186, 404, 534, 606
Harrisonburg, Va.....	370
Harrisonville, Mo.....	569
Haverhill, Mass.....	154
Hibbing, Minn.....	223
High Point, N. C.....	697
Humboldt, Ia.....	371
Huntington, L. I.....	153
Hurley, Wis.....	804
Hyattsville, Md.....	570
Indianapolis, Ind.....	19, 49, 223, 499
Ithaca, N. Y.....	906
Jackson, Ga.....	48, 804
Jackson, Mich.....	698
Jackson, Tenn.....	640
Jacksonville, Fla.....	292
Jefferson City, Mo.....	116
Kansas City, Mo.....	186
Kendallville, Ind.....	154
Knoxville, Tenn.....	258, 837
Lackawanna, N. Y.....	186
Lafayette, Ind.....	939
Lansing, Mich.....	605
Laramie, Wyo.....	606
Leana, Kan.....	333
Leavenworth, Kan.....	443, 499
Lexington, Ky.....	905
Libby, Mont.....	770
Lisbon, O.....	444
Longmont, Colo.....	19, 84, 371, 535, 639, 804, 838
Los Angeles, Cal.....	19, 84, 371, 535, 639, 804, 838
Louisville, Ky.....	499, 569
Lowell, Mass.....	533, 734
Lynn, Mass.....	223, 370
McEwen, Tenn.....	293
Madison, Wis.....	639, 804
Maracaibo, Venezuela.....	804
Marion, Ala.....	870
Maryville, Cal.....	145
Masillon, O.....	534
Mays Landing, N. J.....	570
Meadville, Pa.....	371
Menominee, Mich.....	871
Middletown, Conn.....	292
Milford, Conn.....	697
Milwaukee, Wis.....	154, 333, 533, 640
Mishawaka, Ind.....	270
Mitchell, S. D.....	606
Mobile, Ala.....	698
Montclair, N. J.....	333
Montreal, P. Q.....	115
Mountain View, Cal.....	534
Mount Angel, Ore.....	733
Muncie, Ind.....	257
Muskogee, Okla.....	804
Nashville, Tenn.....	733
Neenah, Wis.....	186
Nevada City, Cal.....	771
New Albany, Ind.....	535
Newark, N. J.....	153, 533
New Bedford, Mass.....	870
Newburgh, N. Y.....	371, 938, 870
New Orleans, La.....	370, 771
Newton, N. J.....	84
New York, N. Y.....	153, 370, 403, 640, 733
Niagara Falls, N. Y.....	770
Niagara Falls, Ont.....	19
Niles, Cal.....	605
Normandy, Tenn.....	222
North Augusta, S. C.....	84
North Billerica, Mass.....	333



# MUNICIPAL JOURNAL

North Wales, Pa.	153
North Yakima, Wash.	293
Norwich, Conn.	116
Oakland, Md.	805
Ogden, Utah	906
Okmulgee, Okla.	606
Omaha, Wash.	639
Orange, Tex.	905
Oswego, N. Y.	734, 940
Ottawa, Minn.	533
Park City, Tenn.	155
Pasadena, Cal.	257, 292
Petersburg, Va.	334
Philadelphia, Pa.	20, 334
Phillipsburg, N. J.	734
Pittsburgh, Pa.	19, 48, 115, 257, 403
Pocahontas, Va.	570
Port Jefferson, L. I.	186
Portland, Me.	569
Portland, Ore.	770
Providence, R. I.	606
Pueblo, Colo.	222
Puyallup, Wash.	534
Raleigh, N. C.	733, 770
Ravenden Springs, Ark.	116
Reading, Pa.	533
Reno, Nev.	640
Richmond, Ind.	49
Richmond, Va.	733
Riverside, R. I.	570
Rochester, N. Y.	257, 606
Rocky Ford, Colo.	371
Rome, Ga.	292
Roseburg, Ore.	85
Rusk, Tex.	333
St. John, N. B.	443
St. Joseph, Mo.	20
St. Louis, Mo.	154, 499, 940
St. Paul, Minn.	222, 535, 569, 640
Sacramento, Cal.	187, 292, 333, 403, 404
Salt Lake City, Utah	19, 48, 155, 837
San Angelo, Tex.	939
San Francisco, Cal.	403, 534
San Jose, Cal.	534
San Mateo, Cal.	223
Santa Monica, Cal.	805
Saranac Lake, N. Y.	403, 769
Schenectady, N. Y.	222, 870
Scranton, Pa.	499
Sharon, Pa.	605
Seneca Falls, N. Y.	906
Sioux City, Ia.	697
Sioux Falls, S. D.	639
Smithtown, L. I., N. Y.	115
South St. Paul, Minn.	444
Springfield, Mass.	293
Spokane, Wash.	404, 535, 733, 734, 769
Stamford, Conn.	771
Staples, Minn.	371
Steamboat Springs, Colo.	569
Suffolk, Va.	443, 605
Summit, N. J.	838
Superior, Wis.	257
Sydney, N. S. W.	769
Syracuse, N. Y.	293, 837
Takoma Park, D. C.	697
Tampa, Fla.	444
Temple, Tex.	698, 905
Topeka, Kan.	371, 403, 734
Trenton, N. J.	85, 837, 870, 905, 939
Tyler, Tex.	939
Valdez, Alaska	838
Ventnor City, N. J.	639
Vidalia, La.	499
Waco, Tex.	639
Walden, N. Y.	48
Walnut Creek, Cal.	404
Washington, D. C.	370, 444, 499, 769, 770
Washington, N. J.	444
Waterloo, Ia.	48
Watertown, N. Y.	20, 535
Watertown, S. D.	49
Waycross, Ga.	445, 771
Westfield, Mass.	870
Whitehall, Mich.	370
Williamsport, Pa.	223
Wilmington, Del.	333
Winchester, Ky.	906
Winston-Salem, N. C.	500
York, Pa.	827

## SEWERAGE AND SANITATION

Altoona, Pa.	224, 941
Amherst, Mass.	21
Atlanta, Ga.	117
Atlantic City, N. J.	118
Augusta, Ga.	258
Austin, Tex.	571
Baltimore, Md.	572
Bellefonte, Mo.	536
Berlin, Ga.	294
Birmingham, Ala.	735
Bismarck, N. D.	372
Boston, Mass.	155, 187, 372, 871, 906
Boulder, Colo.	940
Bradley Beach, N. J.	187
Bridgeport, Conn.	871
Bristol, Conn.	805
Brooklyn, N. Y.	805
Buffalo, N. Y.	805

Cambridge, Md.	259
Camden, N. J.	21
Carbondale, Pa.	806
Chambersburg, Pa.	224
Charleston, S. C.	259
Charlotte, Mich.	806
Chattanooga, Tenn.	698
Chicago, Ill.	372, 838
Cincinnati, O.	839
Claremont, Cal.	335
Cleveland, O.	20, 85
Columbus, O.	571
Denver, Colo.	118, 294
Dover, N. J.	404
Duluth, Minn.	839
Elizabeth, N. J.	335
Elizabethville, Pa.	839
Erie, Pa.	259
Eugene, Ore.	771
Fargo, N. D.	258
Fort Dodge, Ia.	571
Fort Wayne, Ind.	838
Fort Worth, Tex.	50
Fountain City, Ind.	940
Fulton, N. Y.	116
Galveston, Tex.	116
Hackensack, N. J.	940
Harrisburg, O.	607
Harrisburg, Pa.	771, 806, 940
Hartsville, S. C.	49
Hobart, Ind.	871
Indiana Harbor, Ind.	805
Indianapolis, Ind.	335, 571
Industry, N. Y.	571
Jacksonville, Fla.	536
Janesville, Wis.	20
Jersey City, N. J.	734
Knoxville, Tenn.	117
Lexington, Ky.	259
Los Angeles, Cal.	86, 187, 294, 771
Louisville, Ky.	698
Lynn, Mass.	50
Lyons, N. Y.	941
McDonough, Ga.	258
Manchester, O.	536
Marysville, Ky.	536
Milwaukee, Wis.	20
Mobile, Ala.	155, 224, 259
Morristown, Tenn.	445
Newark, N. J.	372
Newark, N. Y.	607
New Bedford, Mass.	259, 906
New Orleans, La.	50, 294, 415
Niagara Falls, Ont.	334
Norfolk, Va.	258
North Yakima, Wash.	224
Ocean Grove, N. J.	85
Ogden, Utah	906
Opelousas, La.	372
Pensacola, Fla.	117
Philadelphia, Pa.	86, 294
Phoenixville, Pa.	334
Pittsburgh, Pa.	404
Plainfield, N. J.	405, 500
Portchester, N. Y.	500
Portland, Ore.	607
Pottstown, Pa.	806
Providence, R. I.	155
Redlands, Cal.	536
Rochester, N. Y.	86, 641, 735
Roebing, N. J.	771
St. Augustine, Fla.	117
St. Joseph, Mo.	259
St. Louis, Mo.	117
Salt Lake City, Utah	405
Santa Clara, Cal.	641
Saranac Lake, N. Y.	805
Schenectady, N. Y.	445
Scranton, Pa.	699
Sisson, Cal.	940
South Bend, Ind.	259
Spokane, Wash.	258, 641, 771
Summit, N. J.	641
Tacoma, Wash.	445
Tampa, Fla.	50
Toledo, O.	838
Topeka, Kan.	839
Trenton, N. J.	116, 117, 698
Troy, Pa.	607, 641, 806
Vincennes, Ind.	49
Washington, D. C.	50, 86, 187, 571
Washingtonville, N. Y.	445
Watertown, N. Y.	445, 571
West Palm Beach, Fla.	155
Wilkinsburg, Pa.	258
Willimansett, Mass.	259
Woodbury, N. J.	86
York, Pa.	871
Youngstown, O.	187

## WATER SUPPLY

Aberdeen, S. D.	807
Albion, N. Y.	642
Altoona, Pa.	50, 87, 736
Amsterdam, N. Y.	536, 735
Anderson, Ind.	943
Anniston, Ala.	536
Asbury Park, N. J.	87
Atlantic City, N. J.	21, 188
Baltimore, Md.	260, 572, 840, 872
Bangor, Me.	336
Batavia, N. Y.	155, 225
Bath, Me.	156
Battle Creek, Mich.	188
Bellaire, N. J.	699
Bennington, Vt.	642
Bethlehem, Pa.	840
Boonton, N. J.	699
Boston, Mass.	21
Bridgeport, Conn.	907
Bridgeton, N. J.	607, 840
Bristol, Tenn.	773
Bristol, Va.	772
Canal Fulton, O.	807
Carrollton, Tex.	773
Carthage, Mo.	872
Cedar Rapids, Ia.	225
Chambersburg, Pa.	373, 405
Charlotte, N. C.	336, 405
Chester, Pa.	189
Chicago, Ill.	51, 406
Chico, Cal.	872
Cincinnati, O.	260, 405
Clayton, N. M.	773
Cleburne, Tex.	500
Cliftondale, Mass.	447
Cohoes, N. Y.	188
Corning, N. Y.	156, 157, 941
Cornwall, N. Y.	643
Corpus Christi, Tex.	336
Council Bluffs, Ia.	225, 446, 941
Cullman, Ala.	405
Dallas, Tex.	500, 536, 699, 736
Dayton, O.	373
Dover, Del.	87, 406
Duluth, Minn.	50
Durham, N. C.	188
East Hartford, Conn.	188
East Syracuse, N. Y.	118
Elgin, Tex.	446
El Paso, Tex.	119
Erie, Pa.	88, 446, 941
Eugene, Ore.	643
Everett, Wash.	372
Fairhaven, Mass.	942
Fayetteville, N. Y.	155
Fort Dodge, Ia.	536
Fort Scott, Kan.	373
Fort Smith, Ark.	536
Fort Worth, Tex.	373
Franklin, Pa.	572
Fulton, N. Y.	908
Glasgow, Ky.	501
Gloucester, Mass.	52
Grand Junction, Colo.	572
Grand Rapids, Mich.	908
Greensboro, Ga.	157
Greenville, Ala.	908
Greenville, Tex.	260, 699
Hagerstown, Md.	643
Hamilton, O.	188
Hammond, Ind.	336
Hancock, Mich.	736, 872
Harlingen, Tex.	773
Hartford, Conn.	51, 772
Hartland, Me.	943
Hazleton, Pa.	500
Herrin, Ill.	118
Hiawatha, Kan.	536
Hibbing, Minn.	571
Hornell, N. Y.	501
Huntington, Utah	908
Jeanesville, Pa.	699
Jersey City, N. J.	224, 772, 942
Johnson City, Tenn.	336
Kansas City, Kan.	336
Kenton, O.	840
Lafayette, Ind.	446
Lansing, Mich.	608
Lebanon, Pa.	21, 941
Lima, O.	772
Lincoln, Cal.	189
Los Angeles, Cal.	294, 374, 446, 841
Louisville, Ky.	188
Lowell, Mass.	839, 872
Lynn, Mass.	118
McKeesport, Pa.	772
Macon, Ga.	51
Manhasset, L. I.	872
Marblehead, Mass.	156, 295, 372
Marshall, Tex.	294
Maryville, Me.	500
Mattapoisett, Mass.	294
Midway, O.	872
Milwaukee, Wis.	187
Monmouth, Ore.	500
Montgomery, Ala.	51
Moorestown, N. J.	295

# MUNICIPAL JOURNAL

Mount Holly, N. J.	840
Mozier, Pa.	608
Muskogee, Okla.	225
Nashville, Tenn.	735
Naugatuck, Conn.	735
Navarre, O.	736
Newaygo, Mich.	699
New Britain, Conn.	335
Newburgh, N. Y.	772
New Castle, Ind.	157
New Pine Creek, Ore.	296
Newport, Ky.	839
Newport, R. I.	225
Newport News, Va.	942
Niagara Falls, N. Y.	87
North Tonawanda, N. Y.	155, 736

Oakland, Cal.	772, 840
Oakville, Wash.	941
Oberlin, O.	537
Ogden, Utah.	374
Ogdensburg, N. Y.	156, 907
Ordway, Colo.	643
Oswego, N. Y.	295

Pasadena, Cal.	87, 942
Perth Amboy, N. J.	189, 537, 642
Philadelphia, Pa.	86, 156, 572, 607, 907
Phoenix, Ariz.	537
Pittsburgh, Pa.	51, 87, 118, 907, 942
Pleasanton, Tex.	642
Port Arthur, Tex.	841
Porterville, Cal.	294
Portland, Me.	447
Portsmouth, Va.	335
Port Washington, L. I.	942
Pueblo, Colo.	446

Ramsey, N. J.	372
Reading, Pa.	21, 642
Reno, Nev.	189
Richmond, Va.	335
Rockaway, N. J.	51
Rochester, Ind.	21
Rochester, N. Y.	21
Roslyn, Wash.	908
Roswell, N. M.	224

St. Louis, Mo.	22
St. Michael, Pa.	260
St. Paul, Minn.	642
St. Petersburg, Fla.	259
Sacramento, Cal.	772
Saginaw, Mich.	119, 295
Salem, Mass.	840
Salt Lake City, Utah.	735, 806, 807
San Angelo, Tex.	735
San Antonio, Tex.	86, 295
San Bernardino, Cal.	643
San Francisco, Cal.	372, 942
Santa Monica, Cal.	188, 571, 643
Scranton, Pa.	118, 156
Seattle, Wash.	840
Sherburne, N. Y.	374
Smith Center, Kan.	807
South Range, Mich.	839
Spokane, Wash.	51, 405, 641, 735
Springfield, Mass.	87
Springfield, O.	642
Sullivan, Ind.	187
Summit, N. J.	841
Sutherlin, Ore.	373
Syracuse, N. Y.	52

Tacoma, Wash.	736
Talladega, Ala.	336
Tarrytown, N. Y.	189
Thousand Island Park, N. Y.	872
Toledo, O.	373, 699
Topeka, Kan.	773
Topsham, Mass.	572
Torrington, Conn.	336
Trenton, N. J.	51, 840, 907

Uxbridge, Mass.	446
Urbana, O.	118

Venice, Cal.	260
Victor, Colo.	188

Walden, N. Y.	188
Warren, Pa.	156
Washington, D. C.	373, 773
Washington, N. C.	295
Waterbury, Conn.	643
Welland, Ont.	156
Wenatchee, Wash.	773
Wheeling, W. Va.	373, 537
White Plains, N. Y.	736
Wilmington, Del.	295
Woodburn, Ore.	446, 872
Woodbury, N. J.	119, 335
Woodland, Cal.	119
Wyandotte, Mich.	51

Youngstown, O.	87, 119
----------------	---------

## STREET LIGHTING AND POWER.

Albany, Ga.	261
Alhambra, Cal.	572
Amsterdam, N. Y.	406
Anderson, Ind.	22
Atlanta, Ga.	22
Atlantic City, N. J.	701, 873

Bainbridge, Ga.	261
Battle Creek, Mich.	296

Boonville, N. Y.	225
Boston, Mass.	260, 337
Boulder, Colo.	406
Burlington, N. J.	807
Burlington, Vt.	501

Charleston, S. C.	337
Charlotte, N. C.	337
Chattanooga, Tenn.	573, 644, 701
Chicago, Ill.	5, 119
Chisholm, Minn.	738
Cincinnati, O.	908
Clarendon, Tex.	537
Cranston, R. I.	573
Cumby, Tex.	296

Dallas, Tex.	644
Decatur, Tex.	296
Decherd, Tenn.	908
De Funiak, Fla.	261
Dickinson, N. D.	702, 842
Duluth, Minn.	189

East Schedak, N. Y.	908
Edgerton, Wis.	501
Elizabeth, Pa.	296
Elwood, Ind.	943

Fall River, Mass.	189
Forest Grove, Ore.	538
Fort Dodge, Ia.	189
Fort Wayne, Ind.	699
Franklin, Pa.	909

Gainesville, Fla.	337
Gainesville, Tex.	338, 701, 841
Garretson, S. D.	737
Gary, Ind.	190
Gladwin, Mich.	908
Grand Rapids, Mich.	157, 644

Hallettsville, Tex.	537
Hammond, Ind.	337
Haverhill, Mass.	52, 573, 701, 842
Hebron, N. D.	737
Hightstown, N. J.	189
Hopkinsville, Ky.	841
Hudson, N. Y.	296
Huntington, W. Va.	944

Ipswich, S. D.	260
Jacksonville, Fla.	52, 841, 943
Janesville, N. Y.	773
Janesville, Wis.	700
Johnstown, N. Y.	406

Kansas City, Mo.	88
Kingston, N. C.	572

La Grande, Ore.	537
Lebanon, Pa.	189
Lexington, Ky.	943
Lineville, Ia.	406
Little Rock, Ark.	407
Lockport, N. Y.	261
Longmont, Colo.	407, 842
Los Angeles, Cal.	88, 157, 738

London, England	447
Lynn, Mass.	119, 225, 701, 944
Lynnfield, Mass.	296

Marshalltown, Ia.	737
Massillon, O.	608
Millville, N. J.	774
Mitchell, S. D.	737
Montclair, N. J.	700

Nashville, Tenn.	842
New Bedford, Mass.	774
New Castle, Pa.	700
New Haven, Conn.	841
Newport News, Va.	119
New York, N. Y.	22, 52, 501, 807
Niagara Falls, N. Y.	773

Oakland, Ia.	608
Ocos, Guatemala	873
Ogden, Utah	701
Olneyville, R. I.	538
Olympia, Wash.	22
Oneida, N. Y.	943
Opelika, Ala.	943
Oroville, Cal.	737
Ottawa, Kan.	808
Owensboro, Ky.	644

Palestine, Tex.	338
Pasadena, Cal.	644, 700
Perry, Kan.	374
Philadelphia, Pa.	119, 447, 737
Pittsburgh, Pa.	297, 573, 807
Portsmouth, Va.	909
Poughkeepsie, N. Y.	296
Providence, R. I.	701
Pueblo, Colo.	873
Pulaski, N. Y.	944
Pulaski, Va.	644

Rapid City, N. D.	702
Redlands, Cal.	644
Richmond, Ind.	700
Rochester, N. Y.	501
Rome, Ga.	943
Russellville, Ark.	406

Salem, O.	944
San Angelo, Tex.	501
San Francisco, Cal.	447

San Jose, Cal.	374
Schenectady, N. Y.	157, 737
Scotia, N. Y.	447
Scotland Neck, N. C.	407
Sea Cliff, N. Y.	873
Shelbyville, Ind.	807
Shreveport, La.	297
South Bend, Ind.	375
South Haven, Mich.	337
South Range, Mich.	407
Spokane, Wash.	52
Spotswood, N. J.	908
Springfield, Ia.	608
Springfield, Ill.	157, 406

Tacoma, Wash.	699, 841, 908
Tampa, Fla.	701
Taunton, Mass.	296
Thebes, Ill.	572
Three Rivers, Mich.	537
Topeka, Kan.	297, 808
Traverse City, Mich.	406
Trenton, N. J.	22, 943

Utica, N. Y.	297, 909
--------------	----------

Venice, Cal.	338, 407
Virginia, Minn.	774

Warsaw, Ind.	447
Washington, D. C.	190, 501, 943
Waterloo, Ia.	337
Westfield, Mass.	700
Willimantis, Conn.	296
Wilmington, Del.	842
Winnipeg, Man.	501

Yates Center, Kan.	737
--------------------	-----

## FIRE

Albany, Ga.	339
Albion, N. Y.	23
Arlington, Md.	409

Baltimore, Md.	191, 909
Berlin, Germany	702
Birmingham, Ala.	22
Bluffton, Ind.	538
Boston, Mass.	226, 339, 909
Bridgeport, Conn.	408
Brunswick, Ga.	573
Butler, Pa.	340
Butte, Mont.	89

Camden, N. J.	158
Charleston, S. C.	298, 375
Chattanooga, Tenn.	190, 447, 702
Chicago, Ill.	24, 502
Cincinnati, O.	774
Cleveland, O.	24, 53, 738
Columbus, O.	375
Corpus Christi, Tex.	338
Cranston, R. I.	376

Dallas, Tex.	120, 339
Denver, Colo.	297, 339
Des Moines, Ia.	190, 447, 502
Detroit, Mich.	158, 375
Dover, N. J.	909
Duluth, Minn.	52
Durham, N. C.	53, 338

Elizabeth, N. J.	339
El Paso, Tex.	227
Erie, Pa.	190, 191
Eugene, Ore.	262

Fort Lauderdale, Fla.	262
Fort Smith, Ark.	408
Fort Worth, Tex.	338

Galveston, Tex.	644
Gloucester, Mass.	298
Grand Rapids, Mich.	227
Greeley, Colo.	808

Hammonton, N. J.	808
Hartford, Conn.	262

Indianapolis, Ind.	774
--------------------	-----

Jackson, Miss.	227
----------------	-----

Knoxville, Tenn.	22, 409, 808
------------------	--------------

Lawrence, Mass.	158
Lebanon, Pa.	299
Lexington, Ky.	299
Lindenhurst, L. I.	261
London, England	23
Los Angeles, Cal.	191, 376, 573, 873
Louisville, Ky.	409, 702
Lynn, Mass.	89

Macon, Ga.	23
Malden, Mass.	375
Manchester, N. H.	375
Marblehead, Mass.	408
Meadville, Pa.	299, 644
Miami, Fla.	340
Minneapolis, Minn.	702
Montclair, N. J.	121

New Bedford, Mass.	262
New Britain, Conn.	298
New Castle, Pa.	158
New Castle, Wyo.	774
New Haven, Conn.	24
New Rochelle, N. Y.	340



# MUNICIPAL JOURNAL

New York, N. Y.	53, 227, 262, 297, 339, 502, 538, 573, 944
Norfolk, Va.	226, 808
North East, Pa.	191
North Pelham, N. Y.	121
Oswego, N. Y.	842
Pasadena, Cal.	23, 89
Paterson, N. J.	23, 227, 409, 873
Perth Amboy, N. J.	190
Petersburg, Va.	702
Philadelphia, Pa.	89, 191, 261, 376, 538, 702, 842
Phoenixville, Pa.	375
Pittsburgh, Pa.	24, 121, 227, 299
Portland, Me.	53
Portland, Ore.	538
Portsmouth, Va.	339, 738
Princeton, Ind.	88
Pueblo, Colo.	24
Raleigh, N. C.	227, 909
Revere, Mass.	608
Richmond, Va.	23
Rochester, N. Y.	298, 408, 774
Rockaway, N. J.	339
St. Louis, Mo.	538, 808
Sacramento, Cal.	375, 407
Salina, Kan.	121
Salt Lake City, Utah	808
San Bernardino, Cal.	573
San Francisco, Cal.	22, 191, 262, 502, 738
Santa Monica, Cal.	502
Schenectady, N. Y.	53, 88, 89, 121, 375
South Attleboro, Mass.	376
Spokane, Wash.	190, 340, 408
Springfield, Mass.	191, 873
Springfield, O.	158, 644
Syracuse, N. Y.	338
Thompsonville, Conn.	408
Tonopah, Nev.	88
Topeka, Kan.	226
Tower City, N. D.	808
Tuckahoe, N. Y.	538
Utica, N. Y.	121
Vernon, Tex.	340
Wakefield, Mass.	340
Ware, Mass.	339
Washington, D. C.	842
Waterbury, Conn.	53, 374
Westfield, Mass.	944
Williamsett, Mass.	408
Wilmington, Del.	376
Winnetka, Ill.	608
Winnipeg, Can.	408
Winston-Salem, N. C.	298
Woonsocket, R. I.	340
York, Pa.	407
Zanesville, O.	944

## POLICE

Beloit, Wis.	808
Brownsville, Tex.	120
Christiana, Norway	873
Cleveland, O.	909
Dallas, Tex.	226
Denver, Colo.	261, 502
Des Moines, Ia.	538
Fort Worth, Tex.	702
Freeport, L. I.	297
Fulton, N. Y.	120
Indianapolis, Ind.	774, 808
Jacksonville, Fla.	190
Knoxville, Tenn.	297
Los Angeles, Cal.	88, 261, 338, 374, 502, 573, 909
Lynn, Mass.	738
New York, N. Y.	88
New Westminster, B. C.	644
Oakland, Cal.	88, 538
Patchogue, L. I.	261
Paterson, N. J.	226
Philadelphia, Pa.	120, 190, 909
Pittsburgh, Pa.	297
Portland, Ore.	608
San Francisco, Cal.	120
Schenectady, N. Y.	842
Seattle, Wash.	447
Spokane, Wash.	502
Zurich, Switzerland	297

## GOVERNMENT AND FINANCE.

Amarillo, Tex.	704
Anniston, Ala.	263
Asbury Park, N. J.	24
Atheson, Kan.	540
Atlanta, Ga.	54, 228
Baker, Ore.	776
Baltimore, Md.	409, 540, 611
Boston, Mass.	844

Chattanooga, Tenn.	506, 647
Dayton, O.	506
Dayton, Wyo.	54
Deal, N. J.	54, 409
Denver, Colo.	90, 192, 263
Des Moines, Ia.	449
Durango, Colo.	409
Durant, Okla.	122
Fargo, N. D.	449
Flint, Mich.	575
Florence, S. C.	810
Gadsden, Ala.	24
Guthrie, Okla.	90, 506
Hammond, La.	776
Hunnewell, Kan.	54
Indianapolis, Ind.	122, 263
Jackson, Mich.	540
Jersey City, N. J.	704
Little Rock, Ark.	704
Lockport, N. Y.	158
Long Beach, Miss.	409
Longport, N. J.	24
Los Angeles, Cal.	24, 192, 341, 876
McKinney, Tex.	810
Memphis, Tenn.	704
Milwaukee, Wis.	376
Monongahela, Pa.	122
Nashville, Tenn.	409
Natchez, Miss.	263
Newark, N. J.	54
New Orleans, La.	158, 376, 876
New York, N. Y.	376, 740
Oakland, Cal.	263
Orange, N. J.	122
Paragould, Ark.	122
Paris, France	159
Paterson, N. J.	341
Philadelphia, Pa.	946
Pittsburgh, Pa.	192, 299
Portland, Ore.	299, 449
Revere, Mass.	647
Richmond, Va.	740
Rock Island, Ill.	299
St. Louis, Mo.	54, 228
Sacramento, Cal.	122
Salem, Mass.	911
Salt Lake City, Utah	341
San Antonio, Tex.	192
San Francisco, Cal.	24, 192, 449, 704, 911
Savannah, Ga.	24, 810
Scranton, Pa.	263
Spokane, Wash.	575
Tacoma, Wash.	90, 540
Tampa, Fla.	844
Taunton, Mass.	192
Tower, Minn.	506
Trenton, N. J.	341
Troy, N. Y.	122
Walla Walla, Wash.	946
Warsaw, Ind.	192
Warrenton, Ore.	946
Waterville, Me.	611
Wildwood, N. J.	158
Willis, Tex.	647
Winona, Minn.	776

## STREET CLEANING AND REFUSE DISPOSAL

Alameda, Cal.	90
Altoona, Pa.	54
Belvidere, Ill.	25
Boston, Mass.	123, 410
Bridgeport, Conn.	90, 377, 612, 946
Bridgeville, Del.	54
Brooklyn, N. Y.	193, 341, 946
Chattanooga, Tenn.	192, 299, 947
Cortland, N. Y.	159
Dallas, Tex.	192, 228
Dayton, O.	159, 449
Denver, Colo.	410
Duluth, Minn.	342
Elkins, W. Va.	410
Elmwood, Ind.	159
Erle, Pa.	776
Fort Dodge, Ia.	507
Fort Worth, Tex.	911
Gainesville, Tex.	300, 507
Galveston, Tex.	449
Haverhill, Mass.	612
Janesville, Wis.	704
Kansas City, Mo.	410
Leavenworth, Kan.	540
Logansport, Ind.	342
London, England	911

Los Angeles, Cal.	300, 506, 647, 776
Louisville, Ky.	540, 810, 876
McKeesport, Pa.	810
Marlin, Tex.	228
Milwaukee, Wis.	122, 449
Moorhead, Mont.	264
Newark, N. J.	844
New Augustine, Fla.	704
Newburgh, N. Y.	540
New York, N. Y.	159
Norfolk, Va.	342
Oak Park, Cal.	612
Oklahoma City, Okla.	876
Park City, Tenn.	377
Pasadena, Cal.	263, 299, 876
Passaic, N. J.	123
Paterson, N. J.	25, 90, 377
Pensacola, Fla.	228
Pine Bluff, Ark.	122
Pittsfield, Mass.	507
Raleigh, N. C.	410
Richmond, Ind.	25, 611
Rochester, N. Y.	575
St. Louis, Mo.	507
Sacramento, Cal.	341
Salt Lake City, Utah	410
San Antonio, Tex.	228, 410, 540, 740
San Francisco, Cal.	342
Schenectady, N. Y.	876
Seattle, Wash.	844
Spokane, Wash.	25, 647
Toledo, O.	192
Warren, Pa.	704
Watertown, Mass.	342
Watertown, N. Y.	159
Wilkes-Barre, Pa.	341
Willimantic, Conn.	159
Winston-Salem, N. C.	810

## RAPID TRANSIT

Atlanta, Ga.	25
Atlantic City, N. J.	507
Ayers, Mass.	947
Boston, Mass.	741, 876
Bridgeton, N. J.	193
Brooklyn, N. Y.	411, 612, 911
Camden, N. J.	193
Charleston, S. C.	705
Charlotte, N. C.	343
Chicago, Ill.	54, 90, 264, 507, 541, 647
Council Bluffs, Ia.	575
Dallas, Tex.	264
Dayton, O.	377
Denver, Colo.	810
Duluth, Minn.	450
Dundee, Scotland	450
Edmonton, Alta.	844
Exeter, N. H.	647
Gallatin, Tenn.	947
Haddonfield, N. J.	342
Kalamazoo, Mich.	343, 647
Kansas City, Mo.	411
Kissena Park, N. Y.	450
Los Angeles, Cal.	451, 810, 876
Lynn, Mass.	25
Minneapolis, Minn.	612
Moorhead, Minn.	123
Muskogee, Okla.	810
Newark, N. J.	123
Newbern, N. C.	776
New York, N. Y.	55, 193, 342, 740, 911, 947
Omaha, Neb.	705
Philadelphia, Pa.	300, 507, 844
Pittsburgh, Pa.	91, 507
Portland, Ore.	228, 342, 576
Portsmouth, Va.	193
Racine, Wis.	55
St. Augustine, Fla.	55
San Francisco, Cal.	450
Santa Monica, Cal.	91
Sheboygan, Wis.	705
Superior, Wis.	810
Syracuse, N. Y.	612
Tacoma, Wash.	810
Toledo, O.	410
Toronto, Ont.	377, 705
Trenton, N. J.	91, 123
Washington, D. C.	228, 776
Wilmington, Del.	411

## MISCELLANEOUS

Abbeville, La.	947
Alameda, Cal.	613
Atlantic City, N. J.	776

# MUNICIPAL JOURNAL

Baltimore, Md.	912
Barberton, O.	450
Battle Creek, Mich.	947
Boston, Ga.	160
Boston, Mass.	26, 160, 343, 377, 811
Bradford, Pa.	508
Cadillac, Mich.	947
Canton, China	912
Carlisle, Ky.	705
Chattanooga, Tenn.	161, 508
Chicago, Ill.	26, 55, 541, 911
Cincinnati, O.	845
Cleveland, O.	194, 343, 576, 613, 705, 706, 811, 878, 912
Coeur D'Alene, Idaho.	811
Cold Springs, Okla.	878
Colorado Springs, Colo.	229
Columbia, S. C.	576
Cranston, R. I.	508
Dallas, Tex.	412
De Beque, Colo.	264
Denison, Tex.	761
Denver, Colo.	26, 161, 377, 508, 705, 878, 947
Des Moines, Ia.	541
Dodge City, Kan.	877
Duluth, Minn.	161
East Sacramento, Cal.	411, 576
Elwood, Ind.	264
Erie, Pa.	648
Evansville, Ind.	612
Everett, Wash.	706
Fargo, N. D.	265
Fort Worth, Tex.	613, 796, 947
Freeport, L. I.	161
Freeport, Tex.	706
Galveston, Tex.	576
Gardiner, Me.	706
Geneseo, N. Y.	161
Grainfield, Kan.	576
Grand Forks, N. D.	541
Grand Junction, Colo.	508
Grand Rapids, Mich.	877
Greeley, Colo.	576
Hammond, Ind.	411
Hamburg, Germany	541
Hartford, Conn.	300
Hays, Kan.	576
Haven, Kan.	194
Houston, Tex.	377
Indianapolis, Ind.	55, 845
Jacksonville, Fla.	613
Jersey City, N. J.	411
Kansas City, Mo.	508, 613
Lewiston, Me.	845
Lima, O.	160
Little Falls, N. Y.	811
Longview, Tex.	264
Los Angeles, Cal.	160, 229, 300, 412, 450, 508, 613, 648, 776, 844, 878, 911, 912
Lynn, Mass.	194, 344
Mishawaka, Ind.	508
Newark, N. J.	91
New Bedford, Mass.	26
New York, N. Y.	26, 91, 411, 612, 877, 912
Norfolk, Va.	613, 912
Northwood, Ia.	878
Norwich, Conn.	194
Oklahoma City, Okla.	123
Paris, France	123, 160, 229, 300
Pasadena, Cal.	344
Paterson, N. J.	844
Philadelphia, Pa.	194, 508, 576, 811
Pittsburgh, Pa.	300, 343, 412, 612, 776, 845
Port Clinton, O.	648
Portland, Me.	194
Portland, Ore.	264, 911
Portsmouth, N. H.	508
Providence, R. I.	541
Pueblo, Colo.	706
Richmond, Ind.	947
Riverside, Cal.	411
Rochester, N. Y.	845
St. Louis, Mo.	55, 541
St. Paul, Minn.	613, 706
Sacramento, Cal.	706, 877
Saco, Me.	123
Saginaw, Mich.	811
Salt Lake City, Utah.	845
San Angelo, Tex.	741
San Antonio, Tex.	412, 741
San Diego, Cal.	412
San Francisco, Cal.	343, 412, 878
San Jose, Cal.	613
Santa Monica, Cal.	613
Schenectady, N. Y.	126, 159, 194, 300, 343
Scranton, Pa.	26
Seattle, Wash.	123, 300, 705
South Bend, Ind.	878
Spokane, Wash.	576
Springfield, Ill.	412
Superior, Wis.	877
Tacoma, Wash.	55, 344, 705
Toledo, O.	412

Topeka, Kan.	450
Trenton, N. J.	161
Wamego, Kan.	264
Washington, D. C.	343, 344, 705
West Hammond, Ill.	450
Wilkesburg, Pa.	160
Williamsport, Pa.	26
Wilkes-Barre, Pa.	648
Wilmington, Del.	26, 55
Winston-Salem, N. C.	877
Wood River, Ill.	160
Youngstown, O.	912
LEGAL NEWS.	
Annexation of Territory—Conditions of Territory—Election Ordinances	27
of Territory—Legality of Election	27
Appointment—Fire Department—Officers	778
Assessment of Benefits—Review—Street Opening	56
Delay in Levy of—Liability	577
Districts—Limitation	92
—Injunction	451
—Injunction—Public Improvements	345
Invalid Sewer—Performance of Work	27
Liens—Priority	162
—Railroad Right of Way	413
Refund of	301
Sewer—Notice	451
Sewer—Validity—Ownership	642
Sidewalk—Conveyance of Abutting Street	879
Sidewalk—Railroad Property—Validity	195
Assessments—Abutting Property	542
—Constitutional Law	879
—Estoppel to Attach	378
Judicial Power	345
Leaseholds—Street Improvements	345
—Railroad Right of Way	577
Sidewalk—Validity	778
Special—Appeal	56
Special—Liens—Time Effective	265
—Vacation—Statutes	92
Attorney, City—Services—Duties	345
Automobiles, Ordinance Regulating	742
Benefits—Special Assessments	577
Bids, Acceptance or Rejection of—Fraud	948
Billboard Ordinances—Police Power	229
Bill Boards—Ordinances—Reasonableness	742
Bitulithic Patents	614
Bond Issues—Excess of Debt Limit—Validity	777
Liability Under—Contracts—Assignment	742
Bonds—Acquisition of Water Works Plant	649
—Claims—Priority	577
—Defenses Arising After Commencement	614
—Issuance	56
Issuing—Referendum	195
—Limitation of Amount—Computation	345
—Power of Council	265
—Public Improvement—Bridges	195
Public Securities—Statutes	846
—Res Adjudicata	649
Sale—Reimbursement of Funds	92
Sewer Assessment	913
Sinking Fund	614
Street Improvement—Nature—Authority	707
—Validity	56
Business in Residence District, Regulation of	265
Charter, City—Construction	577
Civil Service—Designation of Employment	92
Service—Library Employees	301
Claims Against City—Notice	345
Commission Form, City Acting Under—Powers	345
Form of Government—Validity	846
Government Act—Construction	948
Government—Charter Amendments—Scope	345
Government Constitutionality	742
Government—General Laws	301
Railway Terminal Statutory Provisions	542
Commissioners—Improvements—Damages	301
Compensation, Deprivation of Property without	194
Employee's—Waiver	509
Compromise of Action—Conclusiveness	265
Consolidation of Cities—Statutes	451
Contract Abandonment of Right to Materials	124
Breach of—Filing Claim	413
of Employment—Action for Breach	542
Excavation—Construction	542, 778
Garbage—Conformity to bid	913

Paving—Illegality—Ratification	879
for Reduced Wages	413
for Services, Void	812
Gratification of Unauthorized	948
Sewer—Specifications—Quick-sand	27
for Street Improvement—Validity	614
Suspended—Power of Mayor and Council	846
Contractor, Compensation to—Judicial Power	879
Independent—Liability—Torts	577
Negligence of Independent—Liability of City	742
Contractors, Independent	265
Contracts—Actions to Annul—Assignment—Liability Under Bond	378
Construction	649
De Facto Officers	846
Indemnity	124
Lowest Responsible Bidder	413
for Machinery—Four Branches—Authority	27
Municipal Powers	195
Partial Performance	413
Paving—Construction—Acceptance	649
Public—Approval	265
Real Estate—Liability	413
Supplemental—Validity	162
Unra Vires	413
Unauthorized and Illegal	707
Damaged Property—Street Improvement	162
Damages—Appeal—Public Improvements	577
Award of—Relief	195
Change of Street Grade	27
Commissioners—Improvements	614
Injuries to Abutting Property	301
Injuries to Property—Drains	707
Liability—Entry on Private Premises	124
Measure—Public Improvement	913
Personal Injury—Excessiveness	301
Recovery of—Usurpation of Office	846
Dedication—Acceptance—Extent	92
Defect in Street—Railway Crossing	577
Defective Sidewalks—Contributory Negligence	265
Sidewalk—Notice	301
Streets—Contributory Negligence	345
Streets—Duty to Guard	649
Streets—Injuries to Pedestrians	778
Streets—Rights of Travelers	56
Streets—Statutes	742
Streets—Statutory Provisions—Railways	614
Dissolution Ineffectual—Actions	56
Ditches—Irrigation—Public Ways	509
Drainage—Liability—Construction of Streets	345
Trespass	92
Drains—Damages—Injuries to Property	301
Eight-Hour Law—Violation	124
Employees, Officers or—Water Commission	413
Eminent Domain—Award	451
Commissioners	742
Employes—Vested Rights	413
Employment, Contract of—Action for Breach	542
Designation of—Civil Service	301
Engineer, City—Right to Assist	56
Entry on Private Premises—Damages—Liability	913
Estimates, Monthly—Contracts—Engineers' Authority	265
Estoppel—Action for Price	879
—Public Improvements—Objections	846
Evidence—Injury to Pedestrians—Opinion	301
Exempt from Taxation, Property—Statute	301
Filling in Tide Lands—Adverse Possession	614
Fire Alarm Signal Box Patents	542
Fiscal Management—Statutory Provisions	451
Franchise of Gas Company—Injunction	778
Waterworks—Validity	301
Fraud—Public Improvements	509
Governmental Duties, Neglect of—Civil Liability	707
Grade, Change of—Matters Reviewable	413
Change of Street—Damages	614
Change of Street—Recovery by Lease	229
Establishment of—Change	846
of Sidewalk, Change of—Damages	879
of Street, Change of	162
of Street, Change of—Statutory and Common Law	614
of Streets, Change—Liability	948
Grades, Street—Establishment	124
Guard Rails—Construction of Highways	812



# MUNICIPAL JOURNAL

Highways, Construction of Guard Rails .....	812	Street—Right to Relief.....	56	—Alterations—Proceedings .....	56
Icy Sidewalks—Injuries to Pedestrians .....	812	in Street—Injuries to Pedestrian .....	195	Defective—Duty to Guard.....	778
Improvement Districts—Street Pavements .....	509	Offenses—Ordinances .....	509	Defective—Injuries—Liability .....	707
Improvements, Public—Objections—Waiver .....	913	Office, Usurpation of—Recovery of Damages .....	92	Defective—Reasonable Repair .....	812
Public—Acceptance of Performance .....	162	Officers, De Facto .....	614	Defective—Rights of Travelers .....	742
Performance .....	162	or Employees—Water Commissioners .....	742	Defective—Statutes .....	614
Public—Defects in Proceedings .....	27	Offices, Municipal—Power to Sue .....	92	Defects in—Questions for Jury .....	812
Public—Liens .....	509	Ordinance Paving—Sufficiency .....	542	Maintenance of City—Railroads .....	649
Public—Liens—Priority .....	92	Validity of—Method of Passage .....	707	Maintenance of—Inflammable Rubbish .....	948
Public—Waiver of Rights .....	124	—Validity—Municipal Street Railway .....	229	Nature of Rights Acquired in—Street Railroads .....	707
Sidewalks—Bermes .....	162	Ordinances—Partial Validity .....	162	—Negligent Use .....	378
Street—Levy—Statutes .....	577	Power to Repeal .....	162	Obstruction—Liability .....	451
Incorporate, Proceedings to—Maps .....	195	—Repeat—Saving Ordinance .....	195	Obstruction of—Personal Injuries .....	649
Indebtedness—Constitutional Law .....	509	Subjects and Titles .....	812	Regulation of—Temporary Obstruction .....	649
—Creation .....	707	Violation of—Punishment .....	124	—Regulations—Property Subject .....	27
—Exceeding Income .....	948	Park Property—Uses .....	846	—Repairing and Repaving .....	812
—Power to Create .....	509	Patents, Bitulithic .....	777	—Road Tax—Statutory Provisions .....	742
—Submission of Question to Vote .....	124	Fire Alarm Signal Box .....	542	—Vacation—Authority of Concert and Sidewalks—Liabilities .....	265
Waterworks—Vote Required .....	378	Street Flushing Machine .....	649	Subway Private—Traffic Agreement .....	451
Injunction—Right to Writ .....	27	Pavements, Street—Improvement Districts .....	509	Tax Occupation—Validity .....	742
Injuries, Actions for—Instructions—Streets .....	948	Paving Contract—Illegality—Ratification .....	879	Paid, Recovery of .....	649
—Notice of Claims .....	948	Contracts—Construction—Acceptance .....	265	Road—Statutory Provisions—Streets .....	742
Personal—Constitutional Law .....	378	—District—Storm Sewers .....	913	Taxation—Estoppel to Contest .....	265
Personal—Instructions .....	195	Material, Choice of—Brand .....	27	—Illegal Levy .....	27
Personal—Notice .....	124, 102, 378	Ordinance—Sufficiency .....	542	—Ordinance .....	913
Personal—Obstruction of Streets .....	649	Pensions, Police—Statutes—Amendments .....	649	Property Exempt from—Statute .....	301
—Proximate Cause .....	846	Petition, Necessity of—Sewers .....	913	—Undervaluation of Real Estate .....	879
to Employees—Notice .....	301	Pole, Falling Electric Light—Injuries to Pedestrians .....	846	—Water Companies—Exemption .....	812
to pedestrian—Contributory Negligence .....	812	Police, Acts of—Liability for Injuries .....	707	Telephone Rates—Municipal Regulation .....	509
to Pedestrian—Obstructions in Street .....	195	Commissioners—Expenses .....	451	Tide Lands, Filling in—Adverse Possession .....	614
to Pedestrians—Falling Electric Light Pole .....	846	Pensions—Statutes—Amendments .....	649	Torts—Operation of Lighting Plant .....	265
to Pedestrians—Icy Sidewalk .....	812	Power—Billboard Ordinances .....	742	Traffic Agreement, Private Subway .....	451
to Pedestrians—Negligence .....	614	Power—Pool Rooms .....	509	Trees, Falling—Injury to Traveler .....	229
to Traveler—Trespasser .....	812	Policemen, Compensation of .....	846	Trespasser—Injuries to Traveler .....	812
Injury, Liability for .....	948	—Liabilities—Officers .....	707	Vaults in Streets—Right of Maintenance .....	345
Personal—Excessiveness—Damages .....	846	Pool Rooms—Police Power .....	509	Wage, Minimum—Ordinance—Validity .....	56
to Pedestrians—Opinion—Evidence .....	301	Port Districts, Creation of—Constitutional Law .....	707	Minimum—Street Improvements .....	124
to Pedestrians—Private Street .....	614	Powers, Delegation of—Ordinance .....	509	Wards, Divisions of Cities Into—Legislative Question .....	879
to Traveler—Falling Trees .....	229	Prosecution for Violation of Ordinance—Costs .....	649	Warrants—Appropriations .....	778
Inspector, Building—Removal .....	229	Punishment—Violation of Ordinances .....	124	Water Companies—Exemption—Taxation .....	812
Interest on Claim .....	345	Purchase of Supplies Without Contract—Liability .....	195	Supply—Quality .....	913
Legislation, Special .....	378	Railroad Company's Easement, Condemnation of .....	124	Waterworks Franchise—Validity .....	301
Levy—Statutes—Street Improvements .....	577	Right of Way—Assessment .....	301	Water Works Plant, Acquisition of—Bonds .....	577
Liabilities—Streets and Sidewalks .....	265	Right of Way—Assessments .....	778	Wharfage Fees—Reasonable Ordinances .....	948
Liability—Construction of Streets—Drainage .....	92	Railroads—Maintenance of City Streets .....	649		
Contracts—Real Estate .....	162	Street—Nature of Rights Acquired in Streets .....	707		
Defective Streets—Injuries .....	707	Railway, Municipal Street—Ordinance—Validity .....	229		
Operation of Municipal Lighting Plant—Torts .....	229	Terminal Commission—Statutory Provisions .....	542		
Purchase of Supplies Without Contracts .....	195	Rates, Fixing Maximum—Electricity .....	577		
Streets—Obstruction .....	451	Regulation—Reasonableness .....	162		
Torts—Independent Contractor for Injuries—Acts of Police .....	707	for Gas and Electricity, Regulating—Power .....	649		
for Injury—Proximate Cause .....	378	Reassessment—Street Improvements .....	577		
for Injury—Sewers .....	413	Regulation, Municipal—Telephone Rates .....	509		
of City and Abutting Owner—Street Obstructions .....	742	Removal—Salary—Civil Service .....	27		
of City—Negligence of Independent Contractor .....	742	Rent, Liability for—Corporation Yard Repair, Reasonable—Defective Streets .....	812		
Licenses—Refusal—Shows .....	614	Repairing and Repaving Defined .....	742		
Library—Public Property .....	413	and Repaving—Streets .....	812		
Lien—Sub-Contractor's—Improvements .....	301	Repaying Defined, Repairing and .....	742		
Liens—Priority—Public Improvements .....	92	Revenue as Distinct from Regulation .....	378		
Time Effective—Special Assessments .....	92	Saloon, Ordinance Prohibiting Treating in a .....	124		
Lighting Plant, Operation of—Torts .....	265	Servitude, Involuntary—Ordinances .....	56		
Plant, Operation of Municipal—Torts—Liability .....	229	Sewer Assessment—Notice .....	542		
Limits, Extension of City—Equal Protection of Laws .....	879	Improvements—Injunction—Presumption .....	56		
Livery Stables—Ordinances—Validity .....	614	System—Negligent Construction .....	451		
Materials, Right to—Abandonment of Contract .....	124	Sewerage—Failure to Abate Nuisance .....	542		
Meter, Defective Water—Mode of Computation .....	879	Sewers—Necessity of Petition .....	913		
Moving Picture Shows, Regulation of .....	124	Storm—Paving District .....	913		
Negligence, Contributory—Defective Sidewalks .....	301	Shows—Licenses—Refusal .....	614		
Contributory—Defective Streets .....	649	Sidewalk Assessment—Railroad Property—Validity .....	542		
Contributory—Injuries to Pedestrian .....	812	Change of Grade of—Damages .....	879		
Injuries to Pedestrians .....	614	Construction by City—Action .....	451		
Responsibility—Lighting Plant .....	948	Defective—Evidence—Admissibility .....	913		
Negligent Construction—Sewer System .....	451	Sidewalks—Permit to Build .....	413		
Notice—Claims Against City .....	345	Sinking Fund—Bonds .....	707		
Defective Sidewalks .....	345	Fund—Establishment .....	378		
Injuries to Employees .....	301	Smoke Ordinance—Reasonableness .....	812		
Personal Injuries .....	124, 162	Specifications—Quicksand—Sewer Contract .....	27		
of Claim—Pleading—Estoppel .....	577	Street, Conveyance of Abutting—Sidewalk Assessment .....	195		
Nuisance, Abatement of—Streets .....	812	Implied Acceptance of .....	195		
Failure to Abate—Sewerage .....	542	Improvement—Property Damaged .....	577		
Statutes—Ordinances .....	345	Improvements—Minimum Wage .....	124		
Obstruction, Temporary—Regulation of Streets .....	649	Opening—Assessment of Benefits .....	577		
Obstructions, Street—Liability of City and Abutting Owner .....	742	Review .....	913		
		Opening—Presumption .....	265		
		Opening—Review .....	614		
		Private—Injury to Pedestrians .....	812		
		Streets—Abatement of Nuisance .....	812		
		—Actions for Injuries—Instructions .....	948		

## Authors

Beeson, Sterling—"Toledo's Municipal Market" .....	179
Bentley, Fred W.—"Welding a Ruptured Steel Main" .....	395
Blakeslee, H. J.—"Syracuse Ornamental Lighting" .....	672
Bowen, Chas. F.—"Manchester's Police Patrol" .....	399
Bowden, W. S.—"Street Cleaning in Port Arthur" .....	530
Cartwright, Otho, G.—"Tax Law and Its Enforcement" .....	325
Chapin, A. L.—"Mazda Lamp Street Lighting" .....	678
Childs, William T.—"Repairing City Property" .....	602
"The Municipal Markets in Baltimore" .....	825
Crain, G. D.—"Using Old Asphalt Material" .....	936
Crutcher, Harry M.—"St. Louis' Asphalt Truck" .....	529
"St. Louis Municipal Asphalt Plant" .....	759
Dunlap, R. J.—"Fargo's Water Purification Plant" .....	559
Edholm, C. L.—"Venice High School is Unique" .....	597
Ganz, Albert F.—"Electrolysis From Stray Currents" .....	79
Giles, John A.—"Boulevard Lighting in Binghamton" .....	283
Guetzloe, Harvey W.—"Seattle's Playground Facilities" .....	732
Harding, Robert J.—"Improvement of Street Intersection" .....	897
Heinly, Burt A.—"Municipal Reclamation of Waste Lands" .....	895
Hiller, J. A.—"Cleaning Cincinnati Water Mains" .....	793
Holmes, Harry N.—"Progress in Ozone Purification" .....	766
Lea, Samuel H.—"Trunk Highways in South Dakota" .....	430
Legler, Henry E.—"Civics Room in a Public Library" .....	256

# MUNICIPAL JOURNAL

Mann, Francis P.—"Paris Motor Fire Apparatus".....	472	Car, Combination Center Dump Controllable Discharge Bucket and....	62	Incandescent Street Fixtures.....	712
Mowry, Duane.—"Milwaukee's Concrete Viaduct".....	631	Chemical Engines, Hand Drawn....	783	Lamp for Public Lighting, Momand Pressure Gas .....	95
"Indebtedness in Wisconsin Cities".....	904	and Hose Truck, Lange Combination .....	782	Lead Wool .....	232
O'Brien, H. S.—"Indianapolis Ornamental Lighting".....	676	Concrete Distribution, Insley Method of .....	231	Lighting Column, Concrete .....	201
Patterson, William E.—"Grading the Hump at Pittsburgh".....	139	Mixer, Hartwick .....	781	Lubricants, Acheson-Graphite.....	653
"Concrete Arch Bridge".....	934	Movable Steel Tower for Chuting .....	304	Meter Box, Clark.....	816
"The Pittsburgh Fire Department" .....	465	Steps, Adjustable Form Holder for .....	232	for Sewer Flush Tank Services, Jet .....	61
Rankin, E. S.—"Large Sewers in Newark, N. J.".....	595	Conduit, J-M Fibre .....	711	Motor Cycle for Municipal Service..	96
"Poplar Roots Stop Sewers".....	532	Crusher, Austin Gyrotory.....	917	"Special Underwriters" .....	384
Scott, Stuart Stevens.—"Baltimore's Great White Way".....	184	Gardner .....	127	Panels for Series Incandescent Circuits .....	710
Simpson, J.—"Municipality's Liability for Negligence in Operating Waterworks".....	604	for Pulverizing Old Asphalt Paving Material, Noyes .....	849	Pipe Cutter .....	62
"Power to Operate Ice Plant".....	761	Culverts, American Ingot Iron Corrugated .....	61	"National .....	816
"Surface Waters in Cities".....	330	Curb Guard, An Efficient.....	815	Reinforced Galvanized Spiral....	305
Skinner, John F.—"Large Submerged Sewer Outlet" .....	213	Guard, Clip-Bar .....	748	and Forged Steel Flanges, Taylor's Spiral Riveted.....	200
Smith, George S.—"Cleaning a Great City" .....	868	Destructor, Sterling .....	653	Playground Apparatus, Everwear..	304
Stribling, E. W.—"Refuse Collection in Columbus" .....	1	Digger, Monahan Trench.....	618	Poles for Edison Mazda Series Lamps	348
Van Buskirk, J. H.—"Algae and Water Supplies".....	368	Drainer, Automatic Sump.....	455	Pump, C. B. S. Diaphragm.....	781
Vennard, William L.—"Reconstructing a Sewer in Lynn".....	289	Drill, Core .....	29	Electrically Driven Centrifugal Sump .....	231
		New Rock .....	165	Electrically-Driven Fire .....	815
		Drills, Temple-Ingersoll Electric-Air Rock .....	652	Goulds' Horizontal Duplex Plunger .....	384
		Engine, Kerosene Gas .....	61	New Centrifugal Fire.....	816
		Twin Tandem Gas.....	652	Valve, Nichols Perfect.....	415
		Fire Alarm Devices, Loper.....	711	Pumping Engine, Atlantic Diaphragm .....	415
		Alarm, Telephone .....	782	Road Congress, Exhibits at American	546
		Apparatus, Motor .....	512	Machines, Steering Device for..	269
		Engine of Large Capacity, New Motor Pumping .....	849	Saw, Portable Gasolene Engine and..	348
		Extinguisher, Chemical.....	918	Sewage Ejector, Blaisdell Automatic	270
		Extinguisher, Electrene Hand..	749	Sewer Block, Vitrified.....	127
		Font With Original Features, Bubble	415	Pipe, Portland Cement for.....	585
		Forms for Arch Bridge Construction, Steel .....	348	Shoveling Machine .....	30
		Fountain, Pressure Regulator for		Shovels, Yankee Toothed.....	953
		Bubbling Drinking .....	454	Sprinkler, Motor Pressure.....	164
		Gas, Air-o-lite .....	710	Swings, Playground.....	165
		Lamp for Public Lighting, Momand Pressure .....	95	Tires, Motz Cushion.....	200
		Gears, Herringbone .....	585	Tractor, Quincy.....	953
		Hand Drawn Chemical Engines....	783	Truck, Kissel Kar Combination Hose and Chemical .....	884
		Helmet, Employing a Novel and Simple Principle, Fireman's Breathing .....	748	Valve Seat, Improved.....	618
		Horses, Non-Slipping Cushion Shoe for .....	454	Valves, Extra Heavy Steel Gate....	269
				Voting Machine .....	918
				Wagon, Hazen Bottom Dumping....	885
				Welding and Cutting Apparatus, Oxy-Acetylene .....	165
				Wire Tightener and Twister .....	585

## Municipal Appliances

Addressograph .....	29
Air Compressor, Belt-Driven.....	619
Lift System for Water Works, The .....	349
Asphalt Plants, The Guelich.....	952
Mixer, Equitable One Drum.....	618
Relaying Plant, Portable.....	850
Barrel, Steel .....	455
Bitumen, Machine for Rapid Testing of .....	884
Bolt, Cinch Expansion .....	95
Brick Cart, Paving .....	748
Bucket and Car, Combination Center Dump Controllable Discharge....	62



